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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/718,520

11/24/2003

Toshinari Takahashi

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12/12/2006

EXAMINER

MEHRMANESH, ELMIRA

C. IRVIN MCCLELLAND

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.

1940 DUKE STREET

ALEXANDRIA, VA 22314

ART UNIT

PAPER NUMBER

2113

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/718,520

Applicant(s)

TAKAHASHI, TOSHINARI

Examiner

Elmira Mehrmanesh

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The application of Takahashi, for a "Data management method and apparatus and program" filed November 24, 2003, has been examined.

Claims 1-21 are presented for examination.

Information disclosed and listed on PTO 1449 has been considered.

Claim 21 is rejected under 35 USC § 101.

Claims 1, 3-6, and 8-21 are rejected under 35 USC § 102.

Claims 2 and 7 are rejected under 35 USC § 103.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 21 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claim 21, the limitation of "a program" is non-statutory subject matter. The claim language is directed to an arrangement of software. Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program's functionality to be realized.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-6, and 8-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Cluff et al. (U.S. Patent No. 7,089,449).

As per claim 1, Cluff discloses a data management system comprising (Fig. 1):
a target operating system, which is to be restored from a failure (Fig. 3, element 202)

a storage device, which stores the target operating system and data (Fig. 1, element 24)

and a management operating system which is independent of the target operating system (Fig. 2, element 134), including:

an operation state detection unit configured to detect an operation state of the target operating system when the operation state of the target operating system corresponds to one of a plurality of predetermined operation states (Fig. 2, element 134)

an extraction unit configured to extract data to be saved from the storage device in accordance with the operation state detected by the operation state detection unit (Fig. 3, element 212)

and a save storage unit configured to save the extracted data (Fig. 2, element 130).

As per claim 3, Cluff discloses the management operating system is more limited in function than the target operating system (col. 2, lines 60-66).

As per claim 4, Cluff discloses the target operating system includes a function of connecting to an external network, whereas the management operating system includes no function of connecting to an external network (Fig. 2).

As per claim 5, Cluff discloses access from an external network to the management operating system is more restricted than access from an external network to the target operating system (Fig. 2).

As per claim 6, Cluff discloses software of the management operating system operates on the same computer on which software of the target operating system operates (Fig. 1, element 18).

As per claim 8, Cluff discloses software of the management operating system operates on a computer different from a computer on which software of the target operating system operates (Fig. 1, elements 18 and 20).

As per claim 9, Cluff discloses one or a plurality of remote management devices installed independently of the management operating system (Fig. 1, element 20)

the remote management device including a remote save storage unit which saves all or part of the data extracted by the extraction means (Fig. 1, element 20).

As per claim 10, Cluff discloses the management operating system further comprises a unit configured to write back data saved in the save storage unit to the storage device to restore contents of the storage device to a state at a given time point in the past (Fig. 3, elements 220 and 222).

As per claim 11, Cluff discloses the management operating system further comprises a unit configured to write back data saved in the save storage unit or the remote save storage unit to the storage device to restore contents of the storage device to a state at a given time point in the past (Fig. 3, elements 220 and 222).

As per claim 12, Cluff discloses the remote management device further comprises a unit configured to write back data saved in the remote save storage unit to the storage device to restore contents of the storage device to a state at a given time

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point in the past (Fig. 3, elements 220 and 222).

As per claim 13, Cluff discloses the target operating system includes a unit configured to read out data saved in the connected save storage unit, as data stored in the storage device, at a given time in the past when the save storage unit is connected (Fig. 3, elements 220 and 222).

As per claim 14, Cluff discloses the target operating system includes a unit configured to read out data saved in the connected save storage unit or remote save storage unit as data stored in the storage device at a given time point in the past when the save storage unit or the remote save storage unit is connected (Fig. 3, elements 220 and 222).

As per claim 15, Cluff discloses the extraction unit includes a conversion unit configured to convert the extracted data into a form with a less data amount on the basis of saved data, which has already been saved, before the extracted data is saved (col. 2, lines 34-41).

As per claim 16, Cluff discloses the predetermined operation state includes a first operation state indicating that the target operating system terminates execution thereof (col. 2, lines 48-52).

As per claim 17, Cluff discloses the predetermined operation state includes a second operation state indicating that the target operating system starts execution thereof (col. 2, lines 48-52).

As per claim 18, Cluff discloses the predetermined operation state includes a third operation state indicating that the target operating system executes installation of an application program (col. 2, lines 48-52).

As per claim 19, Cluff discloses the predetermined operation state includes a fourth operation state indicating that the target operating system has changed data in the storage device (col. 2, lines 48-52).

As per claim 20, Cluff discloses a data management method of causing a management operating system independent of a target operating system (Fig. 2) to manage data in a storage device, which the target operating system has (col. 5, lines 9-21), comprising:

detecting an operation state of the target operating system when the operation state of the target operating system corresponds to one of a plurality of predetermined operation states (Fig. 2, element 134)

extracting data to be saved from the storage device in accordance with the detected operation state (Fig. 3, element 212)

and saving the extracted data in a save storage device (Fig. 2, element 130).

As per claim 21, Cluff discloses a program for causing a computer to function as a data management apparatus which causes a management operating system independent of a target operating system to manage data in a storage device which the target operating system has, the program causing the computer to implement (col. 5, lines 9-21):

a function of detecting an operation state of the target operating system when the operation state of the target operating system corresponds to one of a plurality of predetermined operation states (Fig. 2, element 134)

a function of extracting data to be saved from the storage device in accordance with the detected operation state (Fig. 3, element 212)

and a function of saving the extracted data in a save storage device (Fig. 2, element 130).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cluff et al. (U.S. Patent No. 7,089,449) in view of Oshima et al. (Japanese Patent application No. JP 2003114806 A).

As per claim 2, Cluff et al. fails to explicitly disclose security holes.

Oshima teaches:

the management operating system has fewer security holes than the target operating system (paragraph [0101]). Oshima et al. discloses a system with a front end OS (*management operating system*) and a back end OS region which is used as a virtual memory space, thereby providing high security (*less security holes*).

It would have been obvious to one of ordinary skill in the art at the time the invention to use the method of recovering from system faults of Cluff et al. in the OS updating method of Oshima et al. to effectively recover from failures.

One of ordinary skill in the art at the time the invention would have been motivated to make the combination because Cluff et al. discloses a method and system of recovering a system that has experienced a fault includes a backup device to enable access of a network through the interface in response to the fault (Fig. 3). Oshima et al. discloses a system with a front end OS (*management operating system*) and a back end OS region which is used as a virtual memory space, thereby providing high security

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(paragraph [0101]).

As per claim 7, Cluff et al. fails to explicitly disclose a virtual computer.

Oshima teaches:

the management operating system includes virtual computer software capable of executing software of the target operating system, and the software of the target operating system operates on the virtual computer (paragraph [0101]). Oshima et al. discloses a system with a front end OS (*management operating system*) and a back end OS region which is used as a virtual memory space.

Related Prior Art

The following prior art is considered to be pertinent to applicant's invention, but nor relied upon for claim analysis conducted above.

McGill et al. (U.S. Patent No. 5,469,573), "Disk operating system backup and recovery system".

Hsiao et al. (U.S. Patent No. 6,266,784), "Direct storage of recovery plan file on remote server for disaster recovery and storage management thereof".


Malivanchuk et al. (U.S. Patent No. 7,114,184), "System and method for restoring computer systems damaged by a malicious computer program".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elmira Mehrmanesh whose telephone number is (571) 272-5531. The examiner can normally be reached on 8-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W. Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ROBERT W. BEAUSOLIEL
Supervisor
Art Unit 2113
Patent and Trademark Office
U.S. Department of Commerce